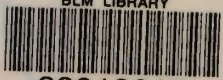


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IDAHO BIG GAME POPULATIONS AND HABITATS

IDAHO WILDLIFE: 2000

by

ALLAN E. THOMAS

(EDITOR)

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**Big Game Populations and Habitats
on BLM in Idaho**

Idaho Wildlife: 2000

by

Allan E. Thomas (Editor)
U.S. Bureau of Land Management
Idaho State Office
Boise, Idaho 83706

**Idaho Bureau of Land Management
Technical Bulletin 87-2**

October 1987

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Introduction

The information contained in this report was compiled at the suggestion of Dave Almond, Chief of BLM's Division of Wildlife and Fisheries. The intent was to begin efforts at identifying big game habitats and limiting factors on BLM-managed lands in Idaho. These efforts will implement at a state level some of the objectives listed in the approved Bureau strategic plan "Fish and Wildlife 2000: a Plan for the Future".

To gain background information for this report, a "Traveling Wildlife Workshop" was scheduled for May 1987. The State Office Program Leader and wildlife program representatives from each District spent a week traveling to five of our six Districts, becoming familiar with statewide big game habitats, projects, and problem areas. Area biologists and other District specialists met the group at field locations along the route to maximize the exchange of ideas.

Chapter assignments for this report were made at the workshop. Although a statewide effort, most of the work of compiling and writing the chapters was done by the following individuals:

- Rocky Mountain Elk - Larry Mangan, Shoshone District
- Mule Deer - Chris Ketchum, Burley District
- White-tailed Deer - Lew Brown, Coeur d'Alene District
- Moose - Lew Brown Coeur d'Alene District
- Pronghorn Antelope - Russ McFarling, Idaho Falls District
- Bighorn Sheep - Loren Anderson, Salmon District

The information presented here will form the basis of Idaho BLM's future program of habitat management for big game species.

Idaho Wildlife 2000
Rocky Mountain Elk

by

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Larry is a Wildlife Management Biologist and wildlife program leader for the Shoshone District. His responsibilities related to elk include restoration of winter habitat destroyed by wildfires, reduction of winter harassment of elk in crucial winter ranges, and management of an unique desert elk herd.

IDAHO WILDLIFE 2000
ROCKY MOUNTAIN ELK

Introduction

Rocky Mountain elk are Idaho's premier big game animal. In 1984 elk hunting represented a net value of almost \$39 million to the state. The Bureau manages both summer and winter areas which account for about 10% of Idaho's elk habitat.

Population

A. Past

Prior to settlement by white man, there were upwards of 10 million elk in North America. Elk were an essential aspect of the subsistence economy of the North American Indian and were hunted extensively in the Pacific Northwest. In Idaho, archaeological evidence suggests that elk were more common in the northern and eastern (Yellowstone area) areas of the state. Because of the Indians' primitive technology and limited mobility and the elk's seasonal habitats, Indians likely had little adverse effect on the elk, in fact, the activities (especially burning) of many tribes may have been conducive to producing and maintain healthy herds.

Following a period of unregulated harvest and habitat destruction associated with settlement in the 1800's, elk populations plummeted and by the early 1900's hit all-time lows. A 1918 U.S. Forest Service census estimated that there were only 610 elk present on National Forest lands in Idaho.

With stricter harvest regulations, an active transplant program, establishment of a series of game preserves and habitat management on federal and state lands, Idaho's elk population increased during the last 60 years almost as dramatically as it had fallen in the previous century.

B. Present

By 1985, Idaho's elk population was estimated to be more than 118,000, a 31% increase over the 1981 estimate. The following is a current estimate by BLM district of the number of elk which spend part or all of their time on public lands:

Boise	500	Idaho Falls	6,600	Shoshone	1,500
Burley	200	Salmon	4,255	Coeur d'Alene	1,400

C. Future

The Idaho Department of Fish and Games' (IDFG) 1990 goal is 143,260 elk, a 20% increase over the 1985 estimate.

Importance and Condition of BLM Habitat

BLM managed lands in Idaho account for about 10% of the state's elk habitat. Because Rocky Mountain elk are usually associated with coniferous forests much of Idaho's public land, which is sagebrush steppe, is unsuitable habitat.

Elk on public lands reach their highest concentrations in the northern (Coeur d'Alene) and eastern (Salmon, Idaho Falls) areas of the state where public land is either timbered or interspersed with stringers or patches of coniferous species. There are several herds which exist yearlong on public land, however, where there are practically no coniferous trees. The Johnson Hill elk herd, a result of a late 1950's transplant from Sun Valley, has grown to almost 400 animals in the sagebrush-covered Bennett Hills. Two other "desert" elk herds in the Idaho Falls District also appear to be doing well existing solely in a sagebrush habitat.

There is a popular misconception that during settlement by white man, elk were driven from these sagebrush habitats to the timbered areas where they now exist. However, accounts of explorers from the early 1800's before much of the west was settled and when elk populations were still high, described elk in timbered areas of the Rocky Mountains. There may have been more elk in the sagebrush habitats prior to settlement than there are now, but most evidence points to the coniferous habitats as the prime summer habitat for elk.

Public land provides significant winter habitat for elk. The largest winter range is in the Sands HMP area which supports about 2000 elk in some years. All other districts have some winter range on public lands.

The very nature of most elk habitat on public land accounts for its relatively good condition statewide. Although there are exceptions as noted previously, elk habitat typically occurs in remote, steep areas where annual precipitation is higher than the average of most public land. This has spared much of the habitat from significant livestock use and some of the other factors which are more common on big game ranges at lower elevations. The higher precipitation helps these areas recover faster than lower elevation ranges.

The habitat is not without its problems, although they are generally different from the those typically seen on mule deer and pronghorn habitats. The lack of fires in many of our elk areas has led to decadent ranges overgrown with brush, where forage quality has significantly declined. This has occurred on both summer and winter areas in northern and southern Idaho.

Although livestock grazing has generally not been a problem with elk habitat, there are exceptions statewide where sheep and cattle use is both excessive and untimely.

Summer habitat in some areas has been declining as stringers or patches of timber are logged in areas where cover is already a limiting factor for elk.

Problems/Progress

Forestry Management

Because elk prefer timbered habitats, there is an almost unavoidable conflict between elk and forestry management. In large, dense stands of timber, elk habitat can be improved by removing timber and increasing the forage/cover ratio. However, because much of the timber on public land naturally occurs in stringers or small patches, the cover, not the forage, is usually the limiting factor for elk. Any removal of timber in these situations can adversely affect elk habitat.

Much of the public domain forest program in Idaho deals with logging in these scattered tracts of timber and interagency guidelines for elk habitat management do not adequately address this situation. A notable exception is in the Coeur d'Alene District where there are stands of timber that can be improved for elk through logging.

Access Management

Increased access into elk habitat is another major statewide problem. Construction of roads is a normal by-product of logging activities. Although most of these roads are properly being closed after a timber sale, closures have only been partially effective because of inadequate compliance and enforcement. Other new roads associated with private and public needs are also proliferating in the state as the population increases. The rapid increase of three and four-wheeled ATV's not only has increased the enforcement problem on road closures but has severely impacted formerly remote areas not previously accessible to motorized vehicles.

Livestock Grazing

As mentioned, the general nature of elk habitat (remote, steep, higher elevations) reduces some of the potential for conflict with livestock grazing. However, there are still areas or allotments of concern where livestock grazing is either excessive or untimely. There are some potential elk use areas not occupied by elk due to both cattle and sheep use. The potential for conflict is greatest in the "desert" elk herds which are not as remote and generally have greater livestock pressure. Idaho Falls District has initiated a successful cooperative venture with IDFG to remove livestock grazing from crucial areas and move it to other, non-crucial areas. In other areas, the District has retired livestock grazing privileges to benefit elk. Several districts are conducting prescribed burns to increase the forage available to both elk and livestock, and thereby reduce competition.

Depredation

As numbers of elk have increased statewide, so have elk depredation problems. Most districts reported some agricultural depredation problems adjacent to public land. Depredation in several districts began in the winter of 1981-1982 when there was abnormally high snowfall accumulations. Elk abandoned several winter ranges in good condition that year for haystacks on private land. Depredation is still a localized problem in most districts but it is severe enough in IDFG's Region IV that their Commission has approved five feeding sites there.

The Bureau has cooperated with the IDFG in providing feeding sites where necessary on public land and has conducted prescribed burns on public land in several districts to improve habitat conditions in an attempt to alleviate some of the depredation problems on adjacent private lands.

Multi-agency Cooperation

Elk, like other wildlife, don't respect political boundaries. Many of the elk on public land are migratory and spend a portion of their existence on lands administered by other state and federal agencies. Although several districts have been involved in attempts to coordinate interagency management of elk, they have been the exception. There is a clear need to increase the amount of contact between agencies responsible for managing the same populations of elk in adjacent areas.

Habitat Condition

Although statewide elk habitat condition is relatively good, there are areas where condition could improve. There are areas throughout the state where habitat conditions have declined due to the absence of fire and the resultant dominance of areas by shrubs. Three districts have initiated HMP's which use prescribed fire to improve elk habitat. On other hand, the Boise District has had some loss of elk winter habitat due to frequent fires which have eliminated browse and increased annual grasses which spawn more fires.

Habitat Management Plans

Although there are problems with elk management on public lands, there has also been substantial progress, some of which has already been discussed. In Idaho there are 13 approved HMP's that deal with elk habitat management and 7 more are either proposed or currently being prepared.

Idaho Falls has several HMP's which use prescribed fire to improve elk habitat (more than 31,000 acres already burned) and innovative exchanges to reduce livestock competition and decrease depredation on private lands.

Shoshone has an active HMP on one of Idaho's "desert" elk herds and has also been successful in improving habitat and reducing depredation with prescribed fire. In addition, two crucial winter areas in the district recently designated as ACEC's, will have HMP's by the end of FY 89.

Coeur d'Alene has a series of HMP's which employ fire, slashing and logging to improve elk habitat.

The following are HMP's which deal with elk habitat management in Idaho:

Idaho Falls District

Sands HMP
Tex Creek HMP
Stump Creek HMP
Schmid Ridge HMP

Shoshone District

Johnson Hill Elk HMP
Little Beaver/Big Beaver Elk HMP (in preparation)

Coeur d'Alene District

Ally Gulch HMP
Placer Creek HMP
Pine Point HMP
Slaughterhouse Knob HMP
Craig Mountain WMA HMP
Rattlesnake Ridge HMP
Brushy Ridge HMP
Whiskey Creek HMP
Blue Eagle/Highland Creek HMP (in preparation)
(4 other proposed)

Goals and Objectives

The following goal and objectives are keyed to the Bureau's "Fish and Wildlife 2000" plan and specific problems and needs identified statewide by Bureau biologists.

Goal 1: Provide habitat of sufficient quality and quantity to support identified statewide elk numbers appropriate for public land.

Objective: Use Interagency guidelines where appropriate to avoid or mitigate elk habitat loss caused by other land uses.

Objective: Where guidelines are not applicable (eg. in areas with timber patches/stringers) identify specific key cover areas in land use plans, HMP's, other activity plans or in mitigating measures in environmental assessments.

Objective: Develop an aggressive access management program on key elk habitat areas by closing all unnecessary roads in important elk ranges, by seasonally restricting access into elk crucial winter areas and other key habitats, by carefully scrutinizing rights-of-way requests in important use areas and by coordinating the enforcement of closures or restrictions with BLM rangers and the IDFG.

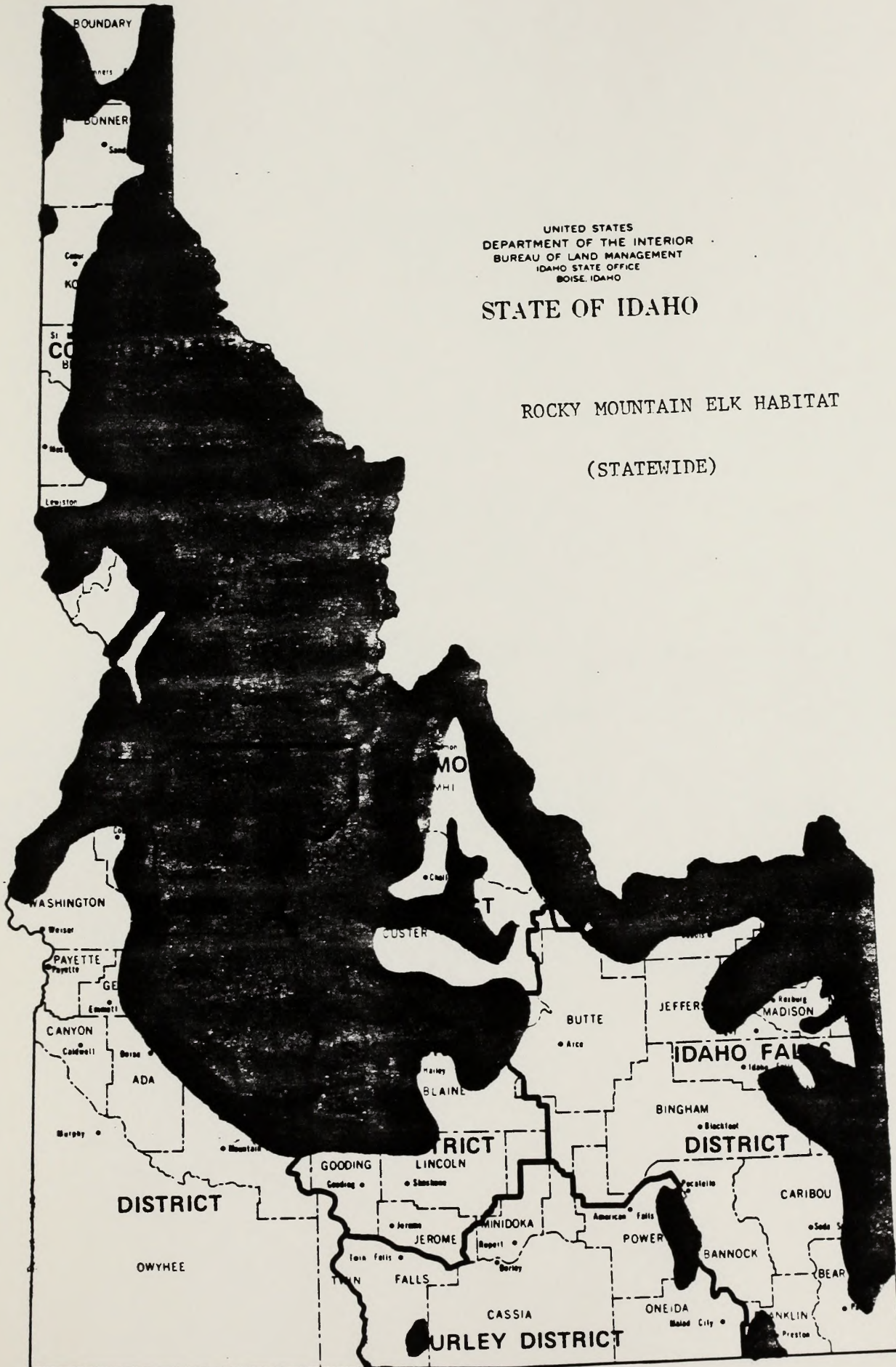
Objective: Include appropriate measures in AMP's or HMP's to insure that livestock grazing is neither excessive nor untimely so that elk habitat is either maintained or improved.

Objective: Improve habitat on public land to help alleviate depredation problems on adjoining private land. Where appropriate, in cooperation with IDFG, provide elk feeding or baiting sites on public land to reduce depredation.

Objective: Establish regional (IDFG) or District interagency committees (BLM, USFS, IDFG, IDL, NPS, etc.) to insure that elk needs are well-coordinated among responsible entities.

Objective: Prioritize existing and proposed HMP's statewide and by district to obtain optimum benefits for dollars spent for habitat management and improvement.

Objective: Acquire through purchase or exchange selected tracts of private or state land necessary to consolidate or protect important elk habitat.



Idaho Wildlife 2000
Mule Deer

by

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Chris is a Wildlife Management Biologist in the Deep Creek Resource Area of the Burley District and is stationed at Malad, Idaho. One of his major projects is the protection and enhancement of mule deer habitat in an area known as the Cove Browse Establishment Project. The completion of Interstate 80-N blocked the migration of about 2,000 mule deer from their normal winter range, causing emergency winter feeding and deterioration of marginal habitat. Techniques to improve the habitat include prescribed fires and planting shrub species.

"WILDLIFE 2000"
MULE DEER HABITAT IN IDAHO

I. POPULATION

A. Past

Prior to the coming of the white man to Idaho, it is believed that mule deer were not abundant. When the white man came to Idaho he began to change the habitat of the mule deer. Unregulated hunting of wild ungulates resulted in a decrease in populations of elk, bison and big horn sheep. With the decrease in populations of these species mule deer began to experience less competition for food and space. Also, as heavy livestock grazing became common, the plant communities changed from grass dominated to shrub dominated. This change in conditions created a favorable situation for mule deer in the years to come.

In the early 1900's, the need for regulated hunting became apparent. By this time most of the elk, bison and bighorn sheep were gone. With the lighter hunting pressure and reduced competition mule deer populations began to grow. Mule deer numbers reached their peak in the 1950's and 1960's. By this time winter range conditions were beginning to deteriorate and it was expected that the high deer numbers were the reason. Harvest of mule deer was increased to lower population levels. This strategy was successful in lowering deer numbers but did not stop the decline in winter range conditions. Despite the reduced deer numbers, winter ranges did not improve and many were completely lost. In the early 1970's, deer populations hit their lowest recorded levels. At this time management strategies again changed. Harvest of antlerless deer was severely restricted, seasons were shortened and buck only hunts became common. By 1980 deer population levels were increasing again in many areas. However, some areas have yet to see an increase and very few have reached their historic levels.

B. Present and Future

At the present time many local populations are increasing and some are not. It should be understood that many of the stagnant populations have reached their carrying capacities and should not be expected to increase. Others still have adequate habitat to allow for population increases and are expected to do so. However, it should be noted that modern range management encourages establishment of grasses rather than shrubs. This management strategy will not allow the return of the shrub dominated communities that existed when deer numbers were at their peak. Nor, from an ecological standpoint, would it necessarily be desirable to have these type of plant communities again. Therefore, the population levels seen in the 1950's and 1960's will probably never be attained again.

II. IMPORTANCE OF BLM HABITAT

In the south west region of the state the majority of habitat (all seasons) is managed by the BLM. Agencies managing State Land, Forest Service land, Indian Reservation land, Military reserves and private landowners manage significantly smaller percentages of the mule deer habitat.

In the the south central and southeastern portions of the state management of mule deer habitat is, for the most part, equally divided between the BLM, Forest Service and private land owners. The Forest Service lands provide mostly summer range. Less than 25 percent of Forest Service lands provide mule deer winter habitat. The BLM lands provides yearlong habitat, but the winter range provided is of major importance. Private lands provide mostly winter habitat. State lands in this portion of the state provide yearlong habitat.

The northern part of the state is managed primarily by the Forest Service. The importance of BLM managed habitat is relatively insignificant.

III. RANGE/HABITAT STATUS

With "average" climatic conditions, Idaho's mule deer habitat is generally, in good enough condition to support the current population levels. When climatic conditions become more extreme localized problems begin to show up. For the biggest share of the state, summer and transitional ranges are adequate even in climatic extremes. Winter ranges are another story. As many of the historic winter ranges have been lost to agriculture or other types of development, an increased pressure has been placed upon the remaining winter ranges. Even though most winter ranges can now support the current numbers in a average year, many cannot provide adequate forage and cover in the extreme winters. With Idaho's habitat in this condition we cannot expect to sustain any major increases in mule deer numbers in the near future. Currently, it is estimated there are about 275,000 mule deer in Idaho. The Idaho Department of Fish and Game (IDF&G) has a goal of 288,500 mule deer in the state by 1990.

IV. PROBLEMS/PROGRESS

A. Problems

The biggest problem facing Idaho's mule deer population is the lack of sufficient winter range. As stated earlier, many winter ranges are only sufficient for "average" winter conditions and many cannot sustain any significant population growth. Several factors have contributed to this situation. In the past few years large wildfires have burned off several winter ranges almost entirely. This has caused the affected deer herds to move to less desirable areas to winter. Also, conversion of private rangeland to cropland and urban expansion

has, over the years, significantly encroached on historic deer winter ranges. All these factors have contributed to depredation problems on adjacent farm, rural and urban areas. As a result, the IDF&G has been required in many areas to initiate emergency feeding programs to prevent major depredation problems and significant winter losses of deer.

To compound these problems, it is difficult to define local populations of deer. Mule deer that summer in completely different areas (sometimes even different hunting units) may migrate to the same winter range. Conversely, deer that share the same summer range may migrate to different winter ranges. This type of behavior makes it difficult to make needed adjustments in local population levels.

Funding for habitat development projects is also lacking. With continued budget cuts it is becoming increasingly difficult to implement HMPs which call for habitat improvements necessary to meet stated objectives.

B. Progress

Progress is being made in many of the problem areas mentioned above. Habitat Management Plans (HMPs) developed for mule deer have been implemented. Many Allotment Management Plans (AMPs) developed for livestock have incorporated objectives which are primarily for the benefit of mule deer and other wildlife. Many of these AMPs outline grazing systems which reduce or prevent late season grazing of winter ranges.

In recent years more emphasis has been placed on restoration of shrublands vital to mule deer winter range. The BLM, IDF&G and Forest Service are cooperatively working with new varieties of shrubs and shrub planting techniques. The labors of this work will result in more successful establishment of beneficial shrubs and forbs. In addition, other projects such as big game guzzlers, shrub plantings, prescribed fires and shrub prunings are being used to help improve habitat.

Also being explored is the concept of "green stripping." Green stripping is the planting of fire resistant plants in strips across areas of high fire occurrence or around important habitat types. It is hoped that these green strips will reduce the size of wildfires. This will lower the likelihood of destroying vast acreages of habitat.

Recent policy changes have allowed Fire Rehabilitation Plans to contain objectives which seek to restore key habitats that have been lost in wildfires. This is a major step in turning around the loss of mule deer habitat to wildfires.

There are still many unresolved problems which are outside of BLM's realm of responsibility. However, if the BLM will do its part in improving and maintaining mule deer habitat on public land, then the benefits derived will help alleviate the problems outside of BLM's responsibility. Continued

cooperation with other state and Federal agencies must be carried on in order to solve the remaining problems.

V. PUBLIC INTEREST

The major public interest in mule deer is for the hunting opportunities they provide. Due to their abundance and proximity to major population centers, mule deer provide more hunting opportunities than any other big game species in the state. Consequently, the demand for quality mule deer hunting is high. In 1984 it is estimated that mule deer hunting contributed about \$23,000,000 to Idaho's economy.

IV. GOALS AND OBJECTIVES

GOALS: Provide suitable habitat to support existing mule deer populations and any desired increases in those populations.

Objectives: Work with Idaho Department of Fish and Game to more accurately define key mule deer habitats.

Objectives: Fully implement current and future mule deer habitat management plans which deal with known key habitats for mule deer.

Objectives: Cooperate with private groups and organizations, Idaho Department of Fish and Game, and Federal agencies.

Objectives: Rehabilitate important mule deer winter ranges which have been destroyed by wildfire.

Objectives: Assist, to the extent possible, any efforts to develop shrub restoration techniques.

VI. REFERENCES

Idaho Department of Fish and Game
1986-1990 Species Management Plan

Burley District, BLM
Curlew HMP
Hanzel Mountain HMP
South Twin Falls Planning Unit HMP

Idaho Falls District, BLM
Fish Haven HMP
Stump Creek HMP
Soda Hills HMP
Isolated Tracts HMP

Shoshone District, BLM
Picabo Hills Deer Winter Range HMP
Wildhorse Greenstripping/Shrub Restoration Plan

Boise District, BLM
Boulder Creek HMP

Salmon District, BLM
Big-Lost Grazing EIS
Ellis-Pahsimeroi Grazing EIS

Couer d'Alene District, BLM
Craig Mountain HMP
Rattlesnake Ridge HMP



UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
IDAHO STATE OFFICE
BOISE IDAHO

STATE OF IDAHO

MULE DEER CRUCIAL WINTER HABITAT

(IDENTIFIED BLM AREAS)



Introduction

Idaho Wildlife 2000
White-tailed Deer

by

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Lew is a Wildlife Management Biologist and wildlife program leader for the Coeur d'Alene District. Most of the white-tailed deer habitat on BLM lands in Idaho is located in the Coeur d'Alene District. Lew's responsibilities include the protection and enhancement of white-tailed deer habitat which could be adversely impacted by activities such as logging and mining.

Idaho was first hunted in the early 1800s. By the early 1870s population was low due to a period of overhunting by prospectors, miners, and settlers. The population probably peaked in the late 1870s and early 1880s after decades of settlement and habitat reduction. The first white-tailed deer were introduced from the west by the military. They are the most abundant big game animal in northern Idaho.

In 1983, the Idaho Department of Fish and Game estimated the state's white-tailed deer population at 24,000. About 25 percent of the population is found in northern Idaho. In Idaho Department of Fish and Game's Region 1, it is thought that white-tailed comprise 75 percent of all deer in the state. In Region 2, they are about 45 percent.

White-tailed deer habitat is concentrated in northern Idaho. Habitat is generally defined as any area that is suitable for the deer to live and breed. Population numbers peaked either quickly or slowly, either because of overhunting, overgrazing, or disease. Overhunting was the primary cause of population decline in the early 1800s when population levels were high.

Management goals of the Idaho Fish and Game Department for the period 1980-1990 were to: (1) maintain or increase the white-tailed deer population to levels consistent with current levels; (2) improve habitat and increase carrying capacity; (3) provide opportunities for the major white-tailed deer management units; (4) increase white-tailed deer populations in selected portions of northern Idaho which support hunting and recreation.

Recently, in the Coeur d'Alene District, white-tailed deer have been hunted by hunters during the fall, which has significantly increased the harvest of deer. This period has provided local and regional overhunting, particularly when they come down to winter.

White-tailed Deer

Introduction

Of the six BLM Districts in Idaho, only Coeur d'Alene in the northern part of the state has significant populations of white-tailed deer. Minor populations occur in the Salmon and Idaho Falls Districts. The other Districts report either none or only a few animals.

White-tailed deer habitat in Idaho is predominantly dense coniferous forest mixed with brushfields, logged areas, river and stream bottoms, and agricultural land. Throughout the northern part of Idaho, whitetail range overlaps mule deer and elk habitat.

Data regarding population dynamics of white-tailed deer are difficult to collect because of the dense cover they inhabit and the inherent secret nature of these animals. Little information has been gathered on this species in Idaho.

Population History

According to the Idaho Department of Fish and Game's 1986-1990 white-tailed deer species management plan, white-tailed deer were abundant in northern Idaho as far back as the early 1800s. By the early 1900s populations were low as a result of exploitation by trappers, miners, and settlers. The populations probably peaked in the late 1940s and early 1950s after decades of protection and habitat release from the fires. Whitetail populations have declined since then but are still large. They are the most abundant big game animal in northern Idaho.

In 1985, the Idaho Department of Fish and Game estimated the state's white-tailed deer population at 69,000. About 98 percent of the population is found in northern Idaho. In Idaho Department of Fish and Game's Region 1, it is thought that whitetails comprise 78 percent of all deer in the area; in Region 2, they are about 62 percent.

Hunter harvest has little impact on whitetail populations in northern Idaho. Numbers are governed almost completely by the quantity and quality of habitat. Population numbers respond rather quickly to changes, either adverse or beneficial. Deer populations, harvest, and success rates have fluctuated since the early 1960s when comparable records were started.

Statewide goals of the Idaho Fish and Game Department for the period 1986-1990 call for: 1) Maintenance of the white-tailed deer population that occurs in northern Idaho at current levels. 2) Increase harvest and recreational hunting opportunity in the major white-tailed deer management units. 3) Increase white-tailed deer populations in selected portions of southern Idaho through trapping and transplanting.

Recently, in the Cottonwood Resource Area, white-tailed deer have been subject to hunting during the rut, which has significantly increased the harvesting of bucks. This action has generated local and regional controversy, particularly when deep snows occur in November.

The Idaho Department of Fish and Game has recently been working to generate population and trend data to better address this controversy.

BLM Habitat

During the summer, white-tailed deer are found nearly everywhere except subalpine areas and possibly in the lowest elevations along the Snake River in the southern part of the district.

Winter in northern Idaho is often severe, especially in the northern portion of the Coeur d'Alene District. Snow depths often force deer to "yard up". In some of the best habitats, snow depth and severity of the winter limit populations. To the extent possible, whitetail generally use valley bottoms and the lower third of south facing hillsides where snow depths are one foot or less.

They use shrubs yearlong but will also make use of agricultural crops and forbs as those plants are available. Preferred shrubs include red-stem ceanothus, serviceberry, chokecherry, mountain maple and other species similar to those preferred by mule deer and elk. Some portions of important winter and spring habitats are associated with the canyonlands of the Salmon and Clearwater Rivers. In these areas grasses may play an important part in the diet.

Because of the wide distribution of whitetail and the fragmented nature of BLM administered lands in northern Idaho, it is preferable to examine each of the District's resource areas separately to look at importance of BLM habitat relative to the total. In the northern resource area, Emerald Empire, the total estimated deer habitat is about 7,654 square miles with 208 square miles or 3 percent being BLM administered. The BLM also administers a small area of critical winter range, about 2 percent of the total identified critical habitat.

In the southern portion of the District, Cottonwood Resource Area, about 40,100 acres of habitat have been identified as important whitetail habitat. Of this area, 7619 acres or 19 percent is BLM administered. The BLM also administers about 600 acres of crucial habitat.

BLM habitat condition varies from location to location. In general, the habitat appears in good condition with adequate interspersed forage and cover areas. Opportunities exist to improve habitat through manipulation of logging programs.

Habitat Problems and Progress

Winter ranges are critical to the survival of white-tailed deer in northern Idaho. Areas suitable for winter range are often very limited and may constitute as little as 5 percent of the land base. This makes whitetail subject to impacts associated with human encroachment. Snowmobiling, cross-country skiing, unrestrained dogs, and poaching are examples. Logging practices which create unfavorable winter range conditions are another example. Closing logging roads to vehicular traffic somewhat counteracts the impacts of logging.

Fragmented intermixed parcels of public land may provide important "island habitats", particularly when adjacent land uses have the potential to degrade habitat. This is particularly true in the Clearwater River drainage of the Cottonwood Resource Area.

The BLM participated with several other agencies including the Idaho Department of Fish and Game in an effort to develop guidelines for the management of white-tail deer habitat. Given proper consideration in land use planning, whitetail deer can be expected to flourish in northern Idaho indefinitely.

Habitat Management Plans

The Craig Mountain Wildlife Management Area, Rattlesnake Ridge, Brushy Ridge, and Whiskey Creek HMPs have proposals to benefit white-tailed deer. Other HMPs may be formulated for this species but there are no specific proposals at this time.

Goals and Objectives

Goal: Provide suitable habitat to support existing white-tailed deer

Objective: Use guidelines, to the extent feasible, to protect whitetail habitat in areas where other resources are adversely impacting habitat.

Objective: Where feasible, close roads to public use to protect whitetail habitat.

Objective: Implement whitetail habitat management plans in identified important habitats.

Objective: When possible, initiate or support research efforts to better define white-tailed deer population dynamics.

Goal: Provide suitable habitat for expansion of whitetail populations in southern Idaho.

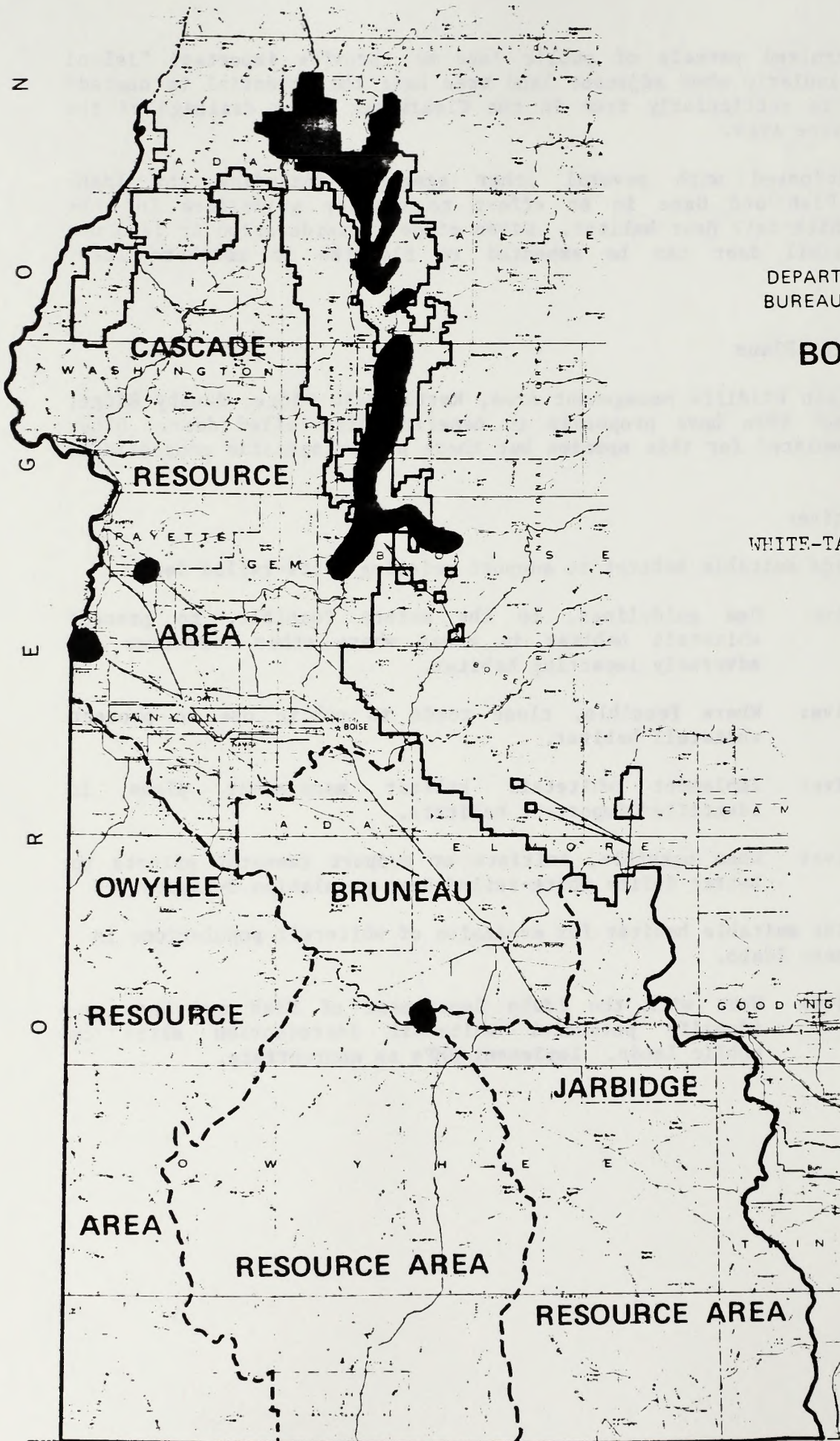
Objective: Work with the Idaho Department of Fish and Game to identify potential whitetail introduction sites on public lands. Implement HMPs as appropriate.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

BOISE DISTRICT

IDAHO

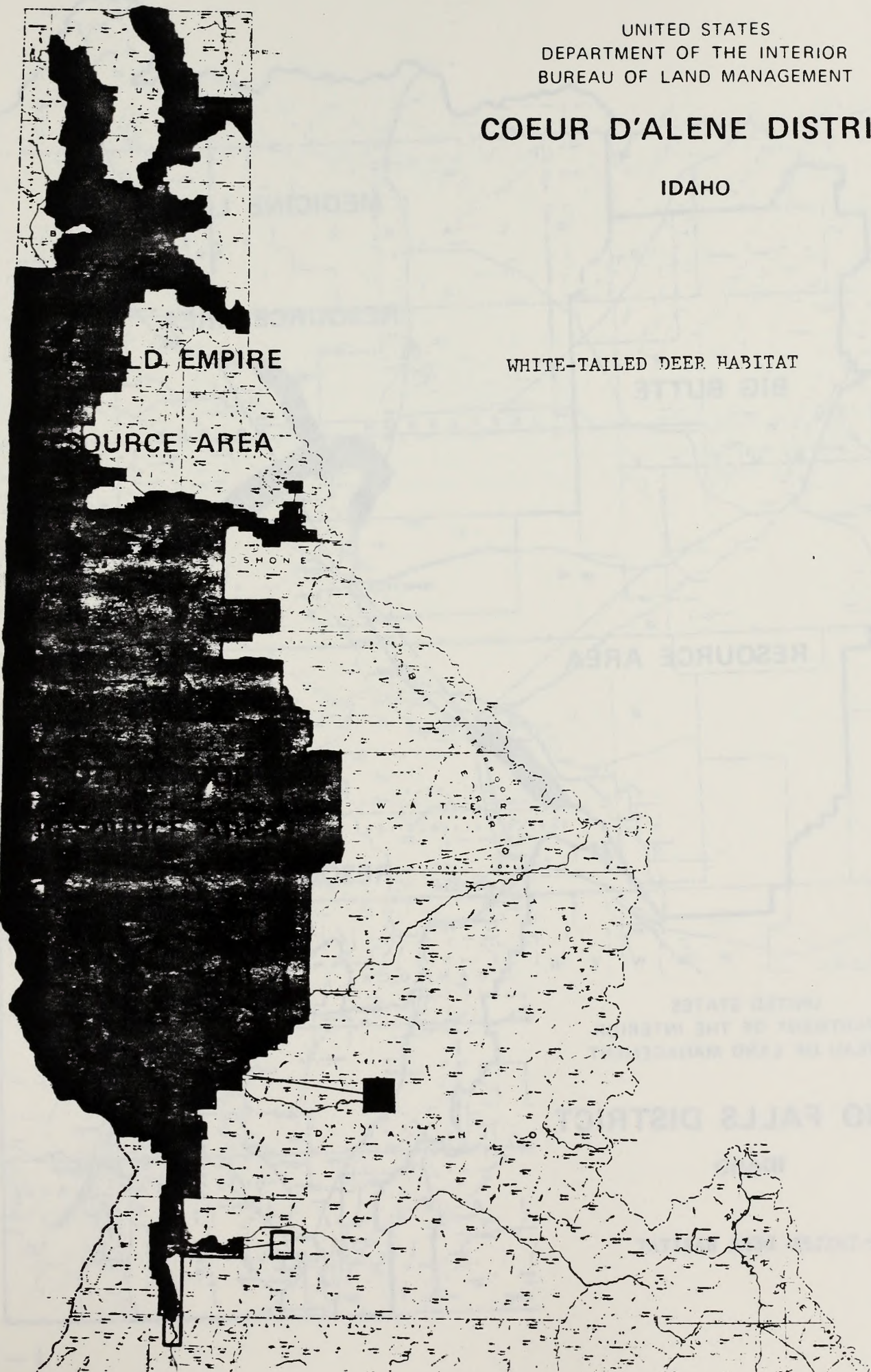
WHITE-TAILED DEER HABITAT

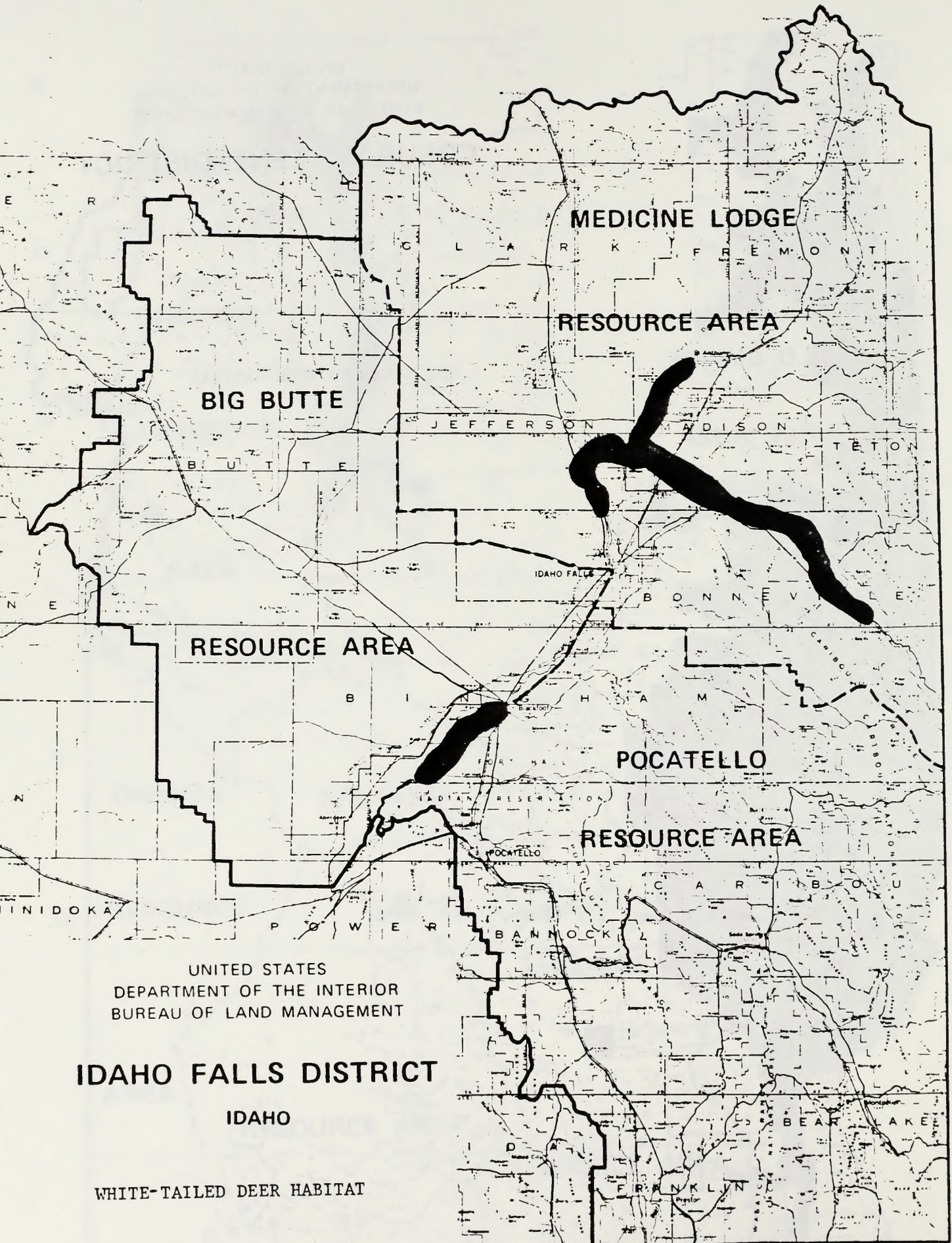


UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

COEUR D'ALENE DISTRICT

IDAHO





UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

IDAHO FALLS DISTRICT

IDAHO

WHITE-TAILED DEER HABITAT

Introduction

Moose hunting is significant to the local economy in the Idaho Falls and Coeur d'Alene Districts. The other parts of the state have only a very few animals on their moose herds. Moose hunting is one of the major sports activities.

Idaho Wildlife 2000
Moose

by

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Lewis is a Wildlife Management Biologist and wildlife program leader for the Coeur d'Alene District. His interest and experience with moose has chiefly been related to browse improvement using prescribed fire and brush pruning.

Idaho Falls District

The moose population in the northern part of the district has increased since 1960 when moose were considered to be uncommon. In the northeastern part of the district the moose population declined during the 1950s and 1960s. It is believed that hunting had a lot to do with this decline. The Idaho law on illegal killing by a hunter required that into the 1970s, since 1973 there has been a general population recovery but the moose hunting season was closed until 1982. Presumably there are at least some moose herds scattered throughout the District. Population goals of the Idaho Department of Fish and Game are to increase the population to 2,000 animals in 1995. Hunter regulations have given hunting rights in Idaho to the Idaho Department of Fish and Game and the Idaho Falls District. Hunting rights in the Park Bridge Forest, however, were purchased. A limited number of hunting permits have been allowed each year since 1982.

Coeur d'Alene District

Moose hunting within the District is primarily located in the Elk City area of the Coeur d'Alene District. Some moose are scattered throughout the rest of the District but numbers are small and significant hunting has not been reported.

There is an estimated population total herd for the Elk City area although there are some moose within the population in slightly irregularly.

There are some moose herds which are located throughout by native Americans in the Coeur d'Alene District. In addition a limited number of hunting permits are allowed for the area by the Idaho Department of Fish and Game.

MOOSE

Introduction

BLM habitat is significant for moose populations in the Idaho Falls and Coeur d'Alene Districts. The other Districts have either none or only a very few animals on BLM administered lands. The BLM manages about 23% of the moose habitat statewide.

Moose are a very important big game animal. Hunter demand for this species is extremely high. The chances of drawing a permit are poorer than for any other big game animal hunted in Idaho. Only 425 permits were offered statewide for the 1987 hunting season. Any person who kills a moose in Idaho is prohibited from applying for another moose permit.

Population History

Distribution, abundance, and population data for moose in Idaho is limited. In general, moose populations throughout the state have significantly increased in the last 100 years with the greatest increase occurring in the past 10 years.

Idaho Falls District

The moose population in the northern part of the District has increased since 1960 when moose were considered to be uncommon. In the northeastern part of the District the moose population declined during the 1950s and 1960s. It is believed that hunting had a lot to do with this decline. The losses due to illegal kills by elk hunters remained high into the 1970s. Since 1975 there has been a general population recovery but the moose hunting season was closed until 1982. Presently there are an estimated 2,540 moose scattered throughout the District. Population goals of the Idaho Department of Fish and Game are to increase the population to 2,940 animals by 1995. Native Americans have treaty hunting rights on Forest Service and BLM administered lands in the Idaho Falls District dating back to the Fort Bridger Treaty. Harvest occurs year-long. A limited number of hunting permits have been allowed each year since 1982.

Coeur d'Alene District

Moose habitat within the District is primarily located in the Elk city portion of the Cottonwood Resource Area. Some moose are scattered throughout the rest of the District but numbers are small and significant BLM habitats have not been identified.

There is no available population trend data for the Elk City area although local biologists believe that the population is slightly increasing.

Moose in the Elk City area are hunted year-around by native Americans as part of their treaty hunting rights. In addition a limited number of hunting permits are allotted for the area by the Idaho Department of Fish and Game.

BLM Habitat

Idaho Falls District

About 156,000 acres of BLM managed lands are considered to be yearlong and/or winter habitat for moose. This is about 20 percent of the available moose habitat. The animals are scattered, making it difficult to pinpoint exactly where they are or will be. The Snake River (Henry's and South Forks) and the Sands HMP area are known wintering areas for moose. Snake River habitat is typically riparian whereas in the Sands HMP area, a high desert environment, bitterbrush and chokecherry constitute the majority of winter moose diets. Eighty-two percent of the habitat is considered to be in good condition for moose.

Coeur d'Alene District

Moose are found in the Elk City area yearlong. Primary use is during spring, summer, and fall. They tend to winter at higher elevation above the BLM lands. Of the 3,840 acres that have been identified as important moose use areas, 80 percent are BLM administered. These important use areas are primarily summer range and calf nursery areas. Moose habitat use in the Elk City vicinity is widely scattered over 10,000 acres in addition to the important habitat areas identified above. Other habitats in the District total an additional 5,000 acres.

BLM habitat consists of dredge ponds left behind from past placer mining operations and wet and dry meadow areas and timbered areas. Much of the BLM lands are intermingled with private lands, a legacy from Elk City's mining past. Forage conditions vary from location to location and range from fair to excellent. Overall, 80 percent of the BLM habitat is in good or better condition for moose.

Habitat Problems and Progress

Idaho Falls District

In the Medicine Lodge Resource Area, over nineteen miles of riparian habitat improvement is proposed to benefit moose as well as fish. Additionally, they receive benefit from projects that have been implemented in the Sands HMP for elk and other species.

Coeur d'Alene District

Competition for forage and space with cattle may be a problem in localized areas although special grazing systems have been implemented on BLM ground to minimize the conflict.

Disturbance from human use of roads and riparian areas is also a problem. As roads are constructed into moose habitat the moose become more vulnerable to poaching and Indian hunting. Effective road closures reduce but do not completely eliminate this impact.

Encroachment into moose habitat from the construction of summer homes on private lands in the Elk City Area is a recognized problem. Unfortunately this threat to the animals security is beyond the control of the land management agencies.

Recent interest in harvesting Pacific yew for use in producing anti-cancer drugs is a potential threat to moose habitat if done indiscriminately. Pacific yew occurring as an understory of mature grand fir stands is an important component of winter habitat in the Elk City area. Guidelines are being developed to protect Pacific yew in commercial timber harvest operations.

Habitat Management Plans

Idaho Falls District

The Sands and Stump Creek HMPs have been written to include strategies for monitoring and improving moose habitat as well as the habitat for other species.

Coeur d'Alene District

No specific plans have been written for moose although moose habitat benefits are achieved from other management plans such as the Elk City Aquatic Zone HMP and the Pilot Riparian Area HMP.

Goals and Objectives

Goal: Provide suitable habitat to support increased moose populations in areas where it appears population increases are likely to occur.

Objective: Practice good road management. Where practical, close roads to public use in areas where moose habitat needs are compromised by leaving the roads open. Road closures are effective in reducing illegal harvest.

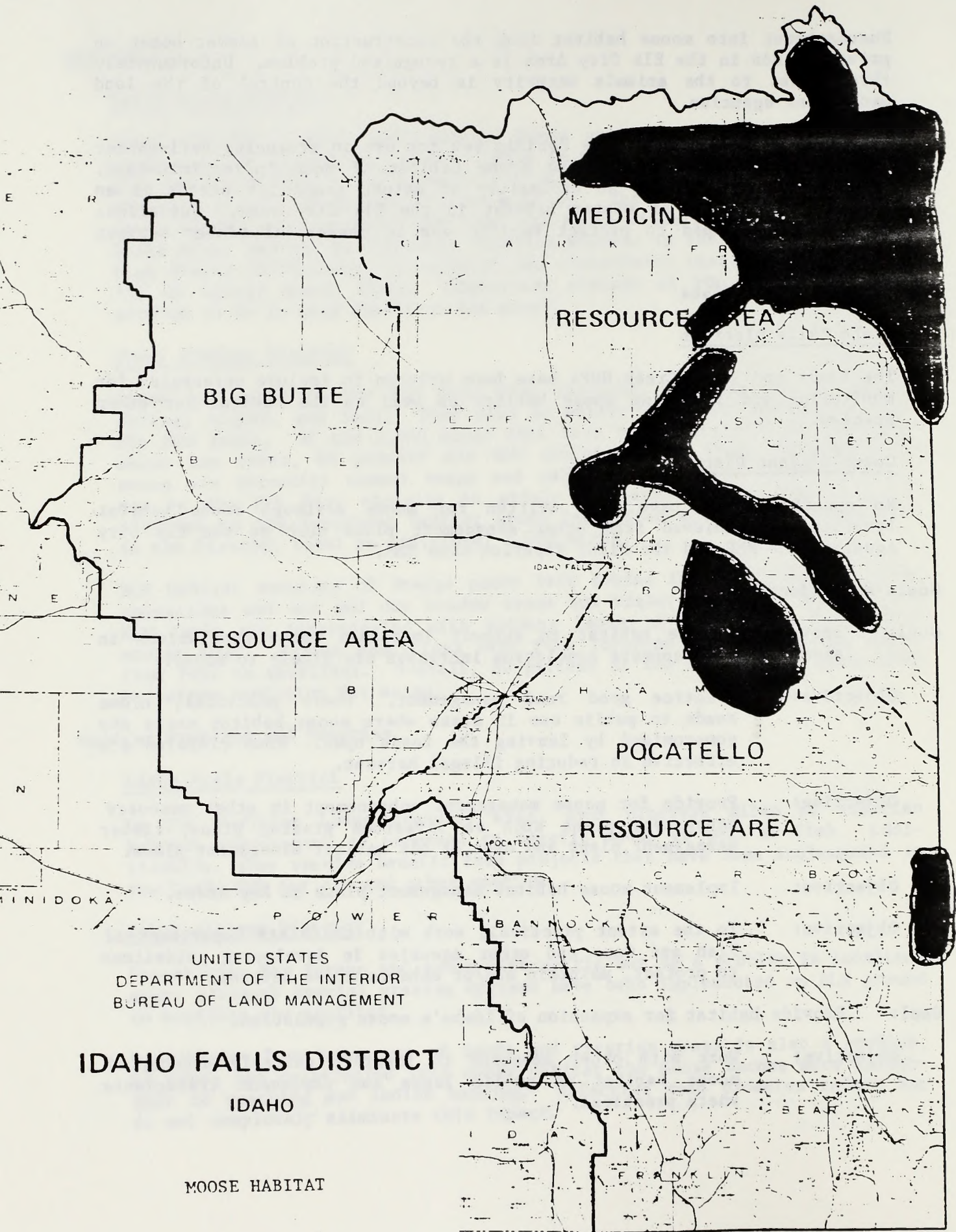
Objective: Provide for moose management enhancement in other resource management plans such as livestock grazing plans, timber management plans and deer or elk habitat management plans.

Objective: Implement moose habitat management plans in key areas.

Objective: To the extent practical, work with the State Department of Fish and Game and other agencies in developing guidelines to protect, maintain and/or enhance moose habitat.

Goal: Provide habitat for expansion of Idaho's moose population.

Objective: Work with other agencies to identify suitable unoccupied moose habitat on public lands and implement transplants where practical.



UNITED STATES
 DEPARTMENT OF THE INTERIOR
 BUREAU OF LAND MANAGEMENT

IDAHO FALLS DISTRICT

IDAHO

MOOSE HABITAT

UNITED STATES
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COEUR D'ALENE DISTRICT

IDAHO

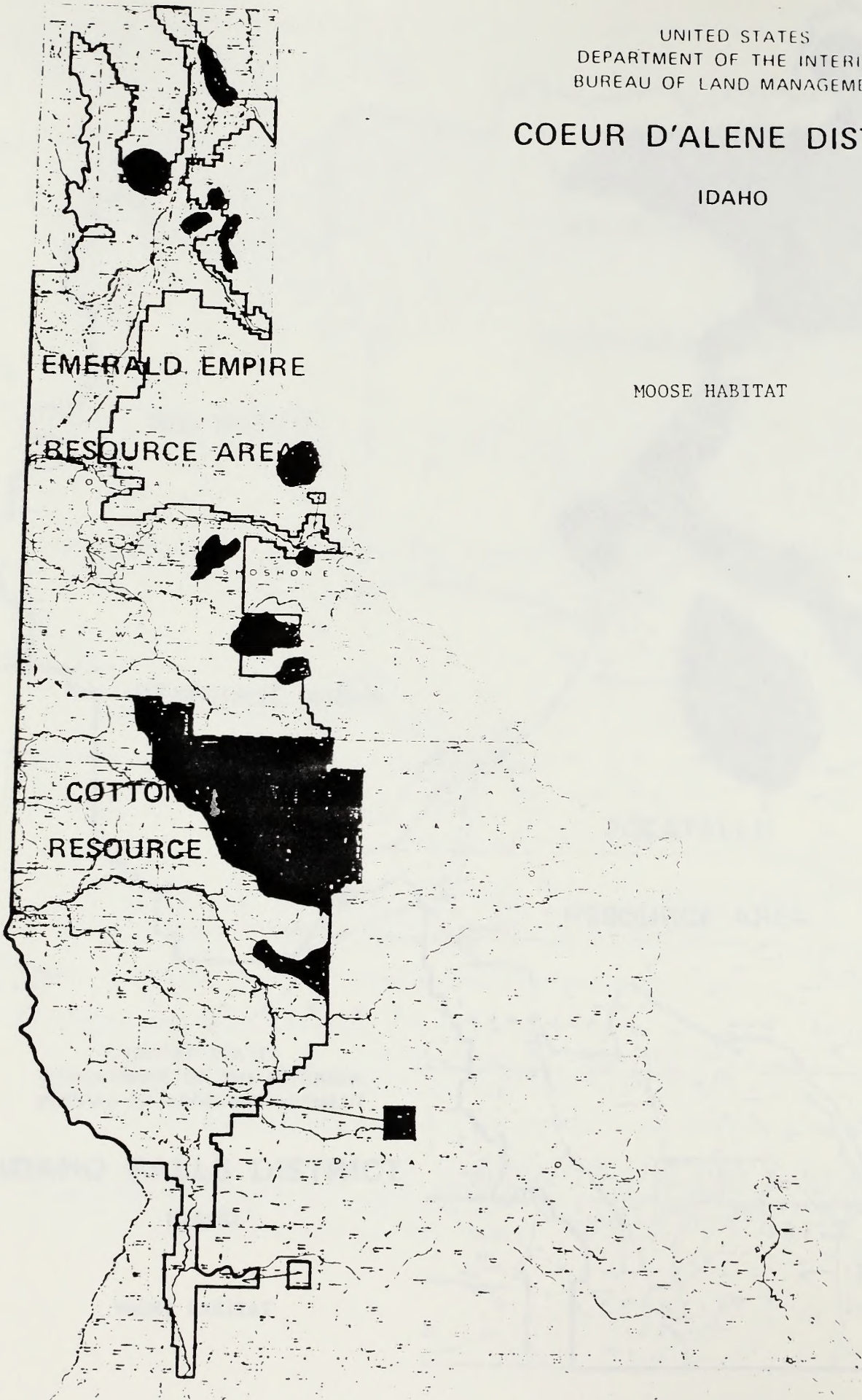
FOOT WALLS



UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

COEUR D'ALENE DISTRICT

IDAHO



MOOSE HABITAT

**Idaho Wildlife 2000
Pronghorn Antelope**

by

**Russell McFarling
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Idaho Falls, Idaho 83401**

Russ is a Wildlife Management Biologist and wildlife program leader for the Idaho Falls District. His responsibilities include protection and enhancement of crucial winter ranges, fawning grounds, and migration routes for the largest pronghorn antelope herds in Idaho. Part of this program has included the intensive development of antelope water sources through both pipeline storage tanks and catchment "guzzlers".

PRONGHORN ANTELOPE
HABITAT IN IDAHO
WILDLIFE 2000

I. Population

A. Past

Early accounts indicated many antelope inhabited the state in the late 1890s and early 1900s; however, the Lewis and Clark journals indicated the antelope (and all big game) were scarce when they went through the state. A lack of adequate habitat may have been the biggest reason that populations were low. Populations reached an all-time low sometime in the 1920s; then as large range fires changed the habitat from tall brush to annual grasslands the population began to expand. The population again took a plunge in the middle 1950s. This die-off coincided with a severe winter of low temperatures and high snowfall.

B. Present

Antelope populations are at an all-time high in recorded history and continue to expand annually. The current population is about 25,000 animals. The number of large fires in recent years have improved the antelope summer range to a structure more suitable for antelope. Winter habitat may now be the limiting factor. Four of the past six winters have been severe and there has been some unusual pronghorn movements (some over 100 miles) and some corresponding unusually high mortality. Probably close to 100 pronghorn have been killed by the railroad in southcentral Idaho and an undetermined number by motorists throughout the state. This mortality can be directly attributed to the unusual winters, lack of suitable winter habitat and the unusual movements as the animals sought suitable food and cover.

Many of Idaho's pronghorn herds have reached optimum levels in many of their habitats. The density and productivity of pronghorn herds vary considerably in Idaho. In general, both density and productivity increase as precipitation increases because wetter habitats supply more nutritious forage and provide better hiding cover for new-born fawns. Annual fluctuation in precipitation can markedly affect pronghorn habitats, populations, and production.

C. Future

The goal of the Idaho Department of Fish and Game (IDFG) is to expand the antelope population in some areas to provide more recreational opportunity. They will attempt to keep the buck:doe ratio in August at or above 30:100.

II. Importance of BLM Habitat

Pronghorns are found scattered throughout the semi-arid areas of Idaho. Major populations are found in valleys of the Big Lost, Little Lost, Pahsimeroi, Little Wood and Lemhi rivers, Birch and Medicine Lodge creeks and the upper Snake River Plain in central and eastern Idaho. Smaller populations occur in parts of southwestern and southcentral Idaho. In certain localities, pronghorn range into higher elevation foothills or mountain ranges during the summer months.

Most of Idaho's pronghorn habitat is managed by the BLM (5,445,284 acres) but significant amounts are also managed by private landowners (2,001,223 acres), US Forest Service (854,897 acres), Idaho Department of Lands (382,721 acres), IDFG (23,188 acres), and others (615,928 acres).

Eighty percent of the pronghorns in the state receive year-long habitat requirements on BLM managed lands. This amounts to about 7300 hunter days with a value to the Idaho economy of about \$467,000.

III. Range/habitat status

In general, Idaho's pronghorn habitats do not support the densities which are characteristic over much of the best habitat in Wyoming and Montana. However, Birch Creek, Medicine Lodge, Little Wood and Little Lost areas support high density herds. Of the BLM administered lands 10 percent is in good condition, 35 percent is in fair condition and 55 percent is in poor condition for antelope.

IV. Problems/Progress

Weather and range conditions affect reproductive success and overall population levels more than any other combination of factors. Proper consideration for antelope in livestock management plans, potential land disposals, mining, and oil and gas exploration, can ensure quality habitat for future generations. However, population levels will vary depending on climatic conditions.

Winter ranges appear to be somewhat traditional, but antelope generally migrate only as far as necessary for good range. Winter distribution depends on weather conditions. During winters of 1975-1976 and 1976-1977, the antelope stayed in the valley mouths in areas where the snow depth was less than up the valley or on the Snake River Plain. Although some antelope wintered at the valley mouths during the mild winter of 1980-81, many stayed on summer ranges near the valley summits. During more severe winters, when snow depth exceeds 10" to 15", antelope may experience difficulty in obtaining sufficient forage.

While improving summer range, or at least the habitat structure, range fires often remove the shrubs necessary for winter survival and to a lesser degree the shrubs necessary for fawning cover. The Wildhorse Greenstripping/Shrub Restoration Plan proposes to improve 10,000 acres of former antelope and mule deer winter and summer range that has been burned. Implementation began in 1987 with about 500 acres of greenstrips and rehabilitation plantings. The main objective is to reduce the frequency of fires, protect any existing shrub areas, and rehabilitate key wildlife areas with a mixture of grasses, forbs and shrubs in the Wildhorse area.

Spring and summer distributions are also variable, and locations are more difficult to document due to wider dispersal of antelope. Spring migration generally coincides with break-up of snow cover. Vegetative cover is a key factor on fawning areas. Vulnerability to both avian and mammalian predators increases when vegetative cover decreases. Native range conversions to crested wheatgrass through seeding for livestock production in the late 1950s and early 1960s has reduced the plant diversity and cover in portions of antelope habitats. Many of these seedings remain as monotypic stands although some have been reinvaded by

are present. However, special consideration is difficult under intensive grazing systems where livestock will be controlled by water manipulation. The placement of both sheep camps and large numbers of cattle at water improvements excludes antelope use. Rancher maintenance of water facilities can result in troughs being shut off after the livestock have left, but before the end of the dry summer. Breeding behavior could be disrupted when buck antelope set up territories around these water sources and then the water is shut off. As the troughs dry up, antelope are forced to move to other water sources.

Rangelands maintaining high antelope numbers have water available every 1 to 4 miles. BLM is installing self-sufficient wildlife waters in areas where the water is limited. More than 100 guzzlers are in place or will be in the next few years. Wildlife storage tanks off of livestock pipelines have also been installed. These are filled periodically from the pipeline and then the antelope are not dependant upon the operator keeping the pipeline full all the time.

Increasing antelope populations and more widespread agricultural activity have caused antelope to feed on crops. Many private hay fields receive heavy use from antelope, especially in summer and fall when irrigated hay provides high quality succulent feed and most adjacent rangeland is dry.

Developing energy and mineral resources and post-development land use practices will significantly alter antelope habitat in both developed and nearby undeveloped range. The impacts of these developments will be compounding and cumulative.

V. Public Interest

Public concern was expressed at meetings throughout the state to maintain and enhance the area's antelope habitat.

Hunter demand for antelope is high and is managed by a controlled permit system for firearm hunters. Controlled hunts have from 1.25 to 1.5 hunters applying for every permit. Archery hunts traditionally have been general seasons with low success rates. Recent high interest in archery, as well as better equipment and techniques, is increasing hunter pressure.

IDFG's objective is to provide maximum recreational utilization and hunting of antelope while maintaining or increasing current population levels. Recent population surveys indicate harvest levels are too restrictive and the permits are expected to be increased over the next 5 years. Because of the permit system it is easy for IDFG to obtain hunter success reports. Hunter success exceeds 70% in most hunts (statewide average is about 80%) and the proportion of bucks in the harvest usually exceeds 75%.

IDFG has identified concerns in the state that have been formulated into portions of the goals in IDFG Five Year Management Plans. Coordination between field level personnel from both agencies is essential to carry out the planned actions. Allotment management plan evaluation, water development for wildlife, and brush control will be coordinated through proper channels in IDFG according to the Master Memorandum of

native browse, forbs and grass. Most of these seedings are used by antelope, but the quality of habitat is generally less than on adjacent native ranges.

Extensive fencing, roads, farming, and human occupancy have restricted antelope migrations. Hay and grain fields that are used by antelope for foraging during spring and summer lack winter habitat requirements. Antelope are excluded from some farmland with woven wire or multi-strand barbed wire fences. These fences have restricted antelope movement because they are antelope-proof and allow passage only when poorly maintained or when antelope have learned to jump them.

BLM fences built before adopting the antelope specifications are difficult for antelope to negotiate and have caused some mortality. More fences have been built recently as livestock management on public lands becomes more intensive and crop depredation by antelope on private lands increases.

Highway right-of-way fences have also restricted antelope movements. Between Idaho Falls and Dubois the fence along I-15 has created a migration barrier that has kept antelope from their traditional winter range for a number of years. This population has dropped from about 700 animals to less than 70 because of this fence. BLM, IDFG and the State Department of Transportation are negotiating a modification in this fence that should allow antelope passage.

The presence of livestock on antelope range affects the habitat and behavior of antelope. Habitat is altered when there is direct competition for forage resources and when plant composition is altered by livestock grazing. Antelope behavior is affected when the presence of livestock and/or associated improvements cause stress and displacement. In some areas sheep bands have monopolized water sources forcing the antelope to other water.

Grazing systems should improve antelope habitat; however, some aspects of intensive livestock management may be in conflict. Pastures grazed before June 15 may influence antelope distribution during the fawning period. Compatibility between antelope and livestock is related to the number of animals using the same range, season of use, water availability and condition of the forage. Antelope usually move from pastures heavily grazed by cattle to ungrazed areas. Grazing pastures beyond 50% of the grass production before June 15 reduces forb availability as well as cover during this critical reproductive period.

Livestock pasture movements during the fawning period can be detrimental to antelope when livestock are concentrated and herded through fawning areas. Livestock on antelope winter ranges and migration routes can influence antelope movement, especially when livestock concentrations occur on preferred range.

Antelope summer distribution is greatly influenced by water availability. Although midsummer observations show antelope miles from the nearest water source, high density summering areas are associated with abundant water from springs, streams and seeps. In drier areas, livestock watering systems can improve antelope distributions where other habitat components

Understanding between IDFG and BLM. Project development to enhance antelope habitat will be coordinated with IDFG before any project is initiated.

VI. References

Little Lost-Birch Creek Antelope Habitat Management Plan, Idaho Falls District, Big Butte Resource Area.

Curlew Habitat Management Plan, Burley District, Deep Creek Resource Area.

Wildhorse Greenstripping/Shrub Restoration Plan, Shoshone District.

Pronghorn Antelope, Species Management Plan, IDFG.

VII. Major Needs

Goal: Maintain vegetative diversity and cover in antelope areas primarily in the fawning areas.

Objective: All new vegetation manipulations in antelope areas will be planned under the antelope guidelines that have seed mixtures and sufficient leave areas for antelope.

Goal: Reduce restricted antelope movement and mortalities due to antelope proof fences.

Objective: Modify highway right-of-way fences which restrict antelope movements to allow antelope passage. Fences shall be modified to antelope specification, designed as take-down fences during peak migration periods, and/or designed to guide animals to safe passage corridors.

New pasture and allotment division fences in antelope areas will also be constructed to antelope specifications. Old fences on BLM lands are being modified to antelope specifications as money and manpower permit.

Goal: Reduce livestock-antelope conflicts for forage before June 15 and reduce livestock pasture movements during the fawning period.

Objective: Monitor allotments to insure that the pastures are not grazed beyond 50% prior to June 15. Work with the IDFG to review the allotment management plans and to take antelope needs into consideration. Work with the operators in allotments with fawning areas to avoid these important areas.

Goal: Increase water availability in antelope areas.

Objective: Install self-sufficient wildlife waters in areas where the water is limited. Work with outside groups and organizations to fund these waters where it is feasible.

UNITED STATES
DEPARTMENT OF THE INTERIOR
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IDAHO STATE OFFICE
BOISE, IDAHO

STATE OF IDAHO

PRONGHORN ANTELOPE HABITAT





Idaho Wildlife 2000
Bighorn Sheep

by

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Loren currently is a Wildlife Management Biologist for the Lemhi Resource Area of the Salmon District. His interest and experience with bighorn sheep has been extensive, especially as related to livestock-bighorn interrelationships, protection of winter ranges, use of fire to improve habitats, and in transplantation of bighorn to former habitats.

IDAHO WILDLIFE 2000
BIGHORN SHEEP

INTRODUCTION (refer to map)

BLM land in Idaho contains significant amounts of both occupied and unoccupied bighorn sheep habitat. To the north of the Snake River these lands contribute to the future of the Rocky Mountain bighorn. To the south they are crucial to the survival of the California bighorn.

The Salmon, Idaho Falls and Coeur d'Alene BLM districts currently contain viable Rocky Mountain bighorn populations. Of the three districts, Salmon contains the largest herds, with an estimated total of around 500-600 head.

All California bighorns are located in the Boise BLM District. British Columbia bighorn transplants initiated in 1963 resulted in the current population of about 600 animals.

The opportunity to see bighorns is a significant drawing card for most hikers, rafters, sight-seers and other recreationists. Many people take extensive trips for the sole purpose of viewing the wild sheep. The State of Idaho estimates the total non-consumptive value of the present bighorn sheep population to be in the neighborhood of 100 million dollars.

The bighorn sheep ram is considered the premier big game animal in North America. The single "Governor's Permit" a number of states have instituted to raise funds for bighorn sheep is typically auctioned off for well over \$50,000. If the current 8 to 1 demand for sheep permits in Idaho could be satisfied, nearly 1.1 million dollars net economic benefit would be realized by the state via consumptive use.

I. POPULATION (refer to map and graph)

A. Past

Reports by early explorers and settlers, archaeological excavations and distribution of skeletal remains indicate bighorn sheep were one of the most abundant large mammals in Idaho. As settlement of Idaho progressed, the picture changed - slowly at first and then at a rapidly accelerating pace. Subsistence hunting, competition from livestock and diseases transmitted from domestic stock took their toll. In describing range conditions shortly after the turn of the century, one cattle rancher wrote, "The lowlands became, generally, of such devastated nature that in economical sense, it was unfit for cattle use..." Many of the lowlands were bighorn sheep winter range. Over much of the bighorn sheep range, cattle, domestic sheep, and in some areas, horse occupation was so complete there literally was no room for wild sheep.

Depleted ranges in concert with diseases transmitted via domestic sheep had put the Rocky Mountain bighorn near the brink of extinction by the early 1900's.

Grazing pressures adversely affected the status of the California bighorn as well. The final demise of the subspecies, however, is credited to intensive market hunting supporting the mining activities at Silver City during the late 1800's and early 1900's. The indigenous stock of California bighorn was gone by 1920.

B. Present

Current population estimates for Rocky Mountain and California bighorns are 3000+ and 600+ respectively. Though certainly not extravagant numbers, they do represent the highest population levels for either of these subspecies since the late 1800's.

Although significant improvement has occurred, the Rocky Mountain bighorn occupies but about 12% of its historic territory. The California bighorn roams only about 40% of its former range. Nearly 30% of the current distribution of Rocky Mountain bighorns and all of the California's is the result of reintroductions. (See map.)

C. Future

Urbanization, livestock grazing and agricultural development prohibits the Rocky Mountain bighorn from ever occupying all of their historic range or attaining population levels evident in the mid-1800's. There remains, however, many thousands of acres of vacant habitat suitable for supporting herds of bighorns.

The Idaho Department of Fish and Game has a goal to significantly increase Idaho's bighorn sheep population. The primary vehicle for accomplishing that goal is to start as many new herds as possible via transplants.

They are pursuing expanded populations and distribution of bighorns to more nearly accommodate the extremely high consumptive and non-consumptive recreational demand.

II. IMPORTANCE AND CONDITION OF BLM HABITAT

A. Existing populations

Approximately 20% (700-800 head) of the population utilizes BLM land in the Salmon, Idaho Falls and Coeur d'Alene Districts. The Salmon BLM District provides

habitat for nearly 14% of the sheep. The majority of Idaho's Rocky Mountain bighorn sheep population resides in the Frank Church--River of No Return Wilderness and suitable habitat immediate thereto. This large area in central Idaho was carved out of several National Forests.

But for token amounts of state and private land, Idaho's California bighorn population is solely dependent on BLM land.

B. Reintroductions (refer to map)

BLM administered land has been, and continues to be, a key element in efforts to increase distribution of Rocky Mountain bighorn. Most transplant releases have been on BLM.

There is currently a backlog of available transplant sites on BLM. The availability of stock for release has been a limiting factor. Both the Morgan Creek and East Fork herds (Salmon BLM District) are being considered as sources for much-needed transplant stock.

C. Habitat conditions (Refer to graph)

In general, habitat conditions have improved considerably since the early 1940's. Most of the improvement can be directly related to the collapse of the domestic sheep industry, particularly in central Idaho. As an example, between 1914 and 1941 an average of 61,000 domestic sheep were grazed on the Salmon National Forest. In both 1916 and 1918, over 120,000 were permitted. Virtually every area capable of being grazed by sheep was occupied. The sheep spent a considerable amount of time on what is now BLM land. The condition of Rocky Mountain bighorn sheep habitat hit an all-time low. They were out of space but for the rougher, more remote portions of Idaho and the forage base had been "devastated".

As of 1986, only 2900 domestic sheep were permitted on the Salmon National Forest -- a 95% reduction from the 1914-1941 average. Active use on adjacent BLM land has been made by about 2400 head in recent years. Although the trend in cattle occupancy of the range has not been as extreme, it too has declined about 30% - 40% since the early part of this century. It is important to emphasize that, although east-central Idaho has been used as an example, it is reflective of what occurred throughout the historic range of the bighorn sheep in Idaho.

Past grazing practices in combination with improved fire suppression have given brush (primarily sagebrush)

and various conifer species a competitive advantage on many bighorn ranges. Increased brush and tree densities represent poorer quality habitat for an animal which is primarily a grazer.

Current habitat conditions on BLM are extremely variable between locations. On the whole, most would rate in Fair ecological condition. There are, however, extensive tracts which would rate Good and some Poor. For both subspecies, a habitat rating of 50%, 25% and 25% respectively would probably be in the ball park. Although an ecological condition rating may not be an entirely adequate method of evaluation, it does provide a reasonable index.

III. PROBLEMS/PROGRESS

A. Livestock grazing

Use of the federal range by domestic livestock has dictated the status of the bighorn and its habitat since the late 1800's.

Current habitat use by bighorns in some areas is strongly influenced by cattle, horse and domestic sheep grazing. Horse and domestic sheep use can have a particularly significant impact as those two species are more willing to use steeper, rougher terrain typical of wild sheep habitat.

Most of the conflict arises out of competition for the forage base. Bighorns and domestic stock both prefer the more palatable and nutritious leaf tips and seed heads. Should domestic stock make even 30% utilization, most of these preferred parts will have been taken and unavailable for wintering bighorns. A uniform 30% utilization level by livestock also influences the availability of the remaining 70% of the plant. As an example, a 15" AGSP plant is reduced to about a 4" stubble with 30% utilization. Put on a 10" snow cover and the problem is quite clear.

Domestic sheep also raise the specter of pathogen transmission to bighorns. Entire herds of bighorns have been eliminated in a short time due to diseases and parasites acquired via sharing ranges with domestic sheep. Even so-called "clean" domestic sheep have proven deadly to wild sheep.

Improperly constructed, located or maintained fences can restrict bighorn movements, deny access to important use areas and can prove lethal--particularly to younger class rams.

The BLM has, on some bighorn ranges, isolated key portions of the habitat from any livestock grazing.

Additionally, carefully designed grazing systems have also been used on those ranges. Specially designed fences (desert bighorn specs.) have been constructed allowing improved sheep movement. It appears these efforts have been fruitful on the allotments where they have been employed.

The BLM is currently working with a permittee on one historic bighorn range to convert his domestic sheep permit to cattle. The recommendation for the conversion carried through the RMP.

If the BLM is going to further assist in the rebuilding of Idaho's bighorn sheep populations, it will have to give priority consideration to the needs of bighorns in all livestock grazing matters affecting occupied and unoccupied bighorn habitat. Changes in class of livestock from sheep to cattle should be encouraged and facilitated. Reverse conversions should be disallowed.

B. Vegetation management

Increased densities of brush and invasion by conifers has lowered the habitat quality of many acres of bighorn range. Old decadent stands of forage exist on a number of ranges that are otherwise in good condition.

The BLM has conducted prescribed fires in several districts to give competitive advantage to preferred bighorn sheep forage and to rejuvenate or "tune" old decadent stands of forage.

C. Human induced stress (HIS)

Human induced stress can come in many different forms. All, however, can cause disruption of traditional use patterns by bighorns, force sheep into marginal habitat, cause long term abandonment of habitats and at the extreme, cause both direct and indirect forms of mortality.

Existing or proposed roads for mining, logging or other purposes hold potential for creating serious problems. Recreational developments on or adjacent to crucial ranges, seismic activities, and aerial operations in support of oil and gas exploration or predator control are other examples of potential HIS factors.

The BLM has attempted (with varying degrees of success) to accommodate security needs of bighorn via seasonal ORV closures, and certain constraints on mineral exploration activities.

D. Supplemental feeding

Many of the crucial winter ranges for bighorns are on low elevation southerly exposures. These areas can be particularly vulnerable to wildfire which could wipe out much of the following winter's forage supply. The BLM should respond favorably and expeditiously to requests from the Idaho Department of Fish and Game to supplemental feed under such circumstances.

E. Poaching

It is estimated that as many, if not more, bighorns are killed by poaching as by legal hunting.

It is recognized the BLM can probably have little influence on organized poaching. Selective road closures, alertness to the magnitude of the problem, and reporting suspicious activities may forestall chance or opportunistic poaching, however.

IV. GOALS/OBJECTIVES

GOAL 1. Ensure bighorn sheep are provided with habitat of sufficient quality and quantity to promote vigorous expanding populations.

Objective: Develop cooperative Habitat Management Plans on important bighorn sheep habitat.

Objective: Develop, execute and maintain livestock grazing systems which fully incorporate the forage needs of bighorn and which otherwise maintain or enhance bighorn habitat.

Objective: Construct, modify or remove fences to facilitate bighorn sheep movements and prevent death or injury.

Objective: Isolate selected crucial areas from livestock as necessary to protect their bighorn habitat values.

Objective: Promote and facilitate domestic sheep to cattle conversions on occupied and unoccupied bighorn sheep habitat.

Objective: Enhance bighorn sheep forage quality and quantity via prescribed fire.

Objective: Acquire, through purchase or exchange, selected tracts of private or state land necessary to consolidate or protect important bighorn sheep habitat.

Objective: Develop reliable supply of water in habitats where it is inconsistent or non-existent.

GOAL 2. Enhance the security of bighorn sheep.

Objective: Formally close all abandoned or otherwise unnecessary roads.

Objective: Impose seasonal ORV/road closures as appropriate. Develop MOU's with Idaho Department of Fish and Game to enforce closures.

Objective: Incorporate necessary restrictions in all land use authorizations (aerial gunning, aerial mineral exploration, seismic operations, R/W's, timber sales, etc.) which occur on or immediate to occupied bighorn habitat.

Objective: Disallow recreation site development on or immediate to occupied bighorn habitat unless said development is consistent with Idaho Department of Fish and Game's plans for recreational viewing of bighorns.

Objective: Support and assist the Idaho Fish and Game as appropriate in their efforts to control poaching.

GOAL 3. Provide quality habitat for, assist with, expansion of bighorn sheep distribution via reintroductions.

Objective: Treat all suitable unoccupied habitat as though it were occupied with regard to activities which may diminish the quality of said habitat.

Objective: Assist the Idaho Department of Fish and Game in trapping and transplanting bighorns for reintroductions.

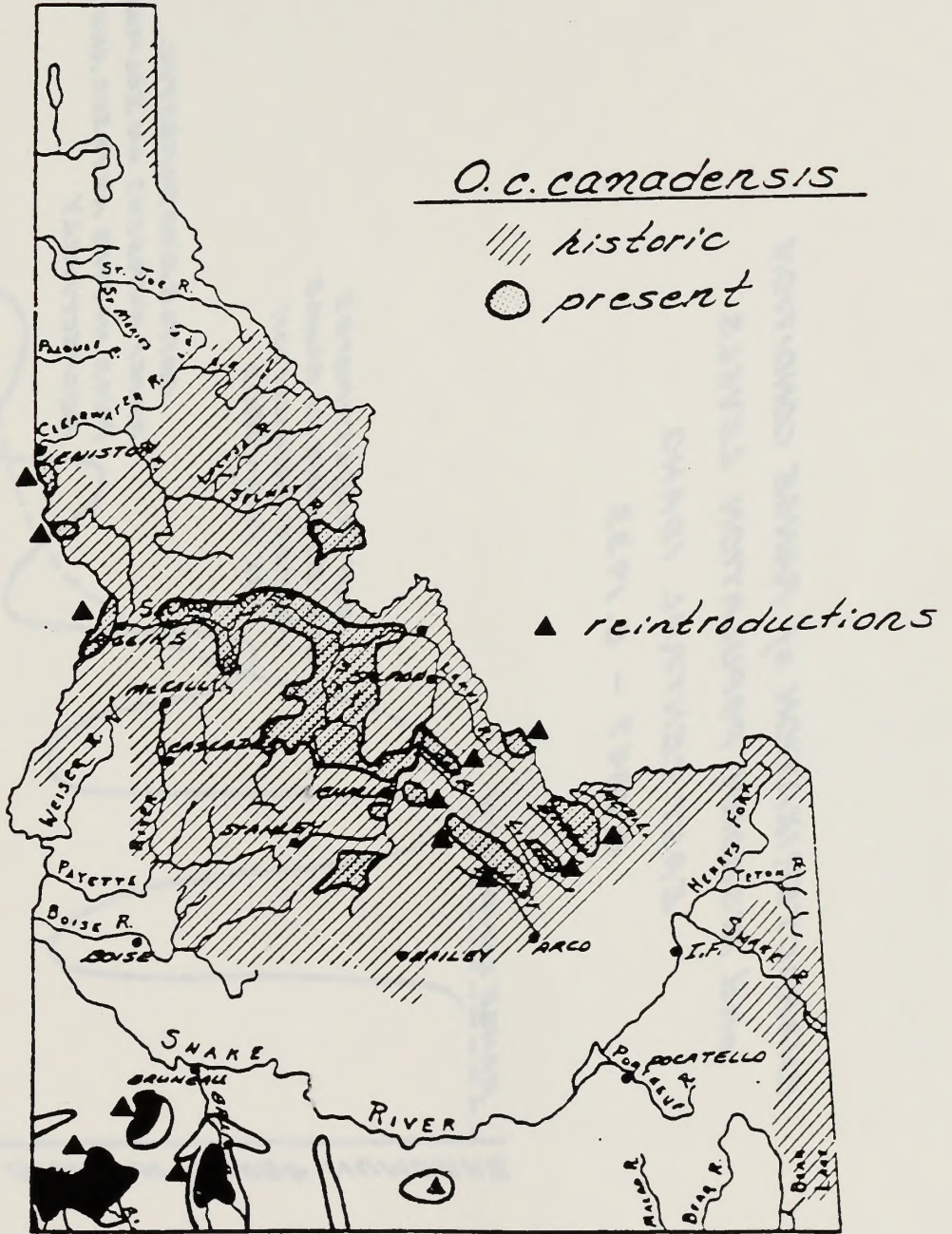
Objective: Assist the Idaho Department of Fish and Game and other agencies with monitoring habitat use patterns of reintroduced populations.

GOAL 4. Be responsive to emergency situations involving bighorns or their habitat.

Objective: Provide manpower/equipment to extent possible for assisting Idaho Department of Fish and Game in treating disease outbreaks.

Objective: Facilitate authorization of, and assist with, supplemental feeding of bighorns when their forage base has been significantly altered by fire, insects, drought or other calamity.

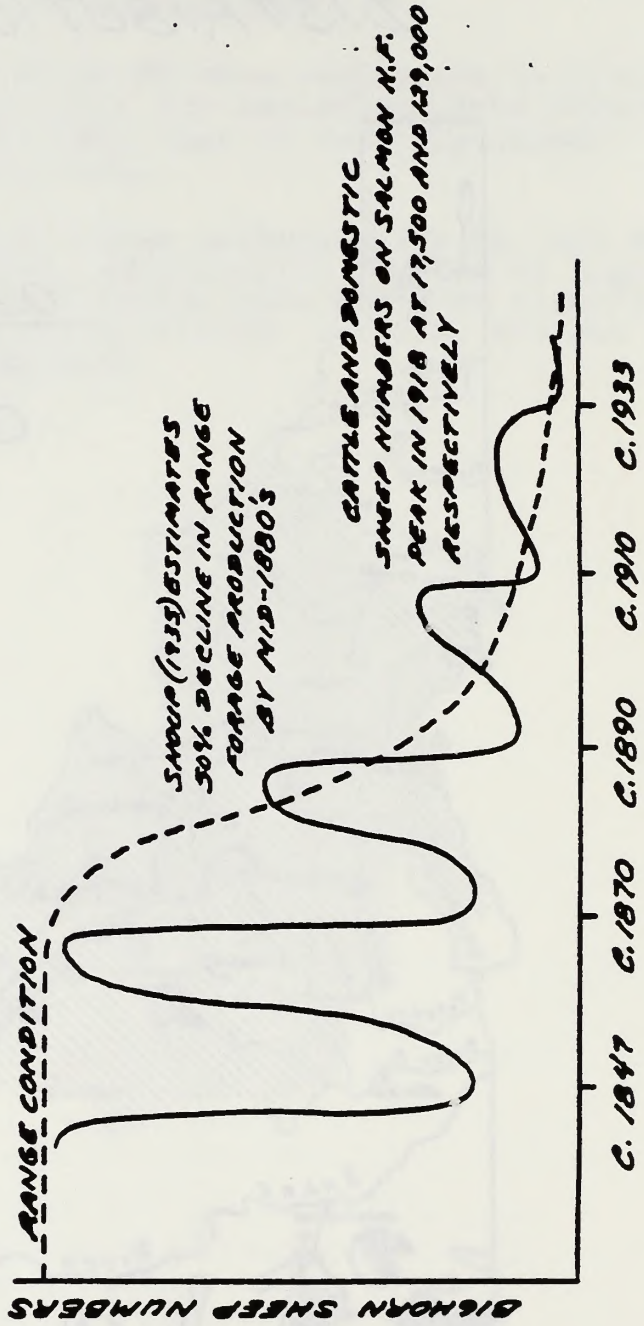
BIGHORN SHEEP DISTRIBUTION



O. c. californiana
 ○ historic
 ● present

CHARACTERIZATION OF RANGE CONDITION
AND BIGHORN POPULATION LEVELS
EAST CENTRAL IDAHO

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362

